

Docket No.: 00-8013/RCE1

REMARKS

In the Office Action, the Examiner continues to reject: (1) claims 1-10, 12-17, 30-47, and 61-74 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,519,597 to Cheng et al. (hereinafter "Cheng") in view of U.S. Patent No. 6,480,865 to Lee et al. (hereinafter "Lee"); and (2) claims 11, 18-29, and 48-60 under 35 U.S.C. §103(a) as being obvious over Cheng in view of Lee and further in view of U.S. Patent No. 6,418,448 to Sarkar (hereinafter "Sarkar"). The Examiner also provided responses to two issues raised by Applicants in their previous Amendment dated July 2, 2004. Applicants have carefully considered the rejections and responses contained in the Office Action and respectfully traverse the rejections because the Office Action fails to establish a *prima facie* case of obviousness (MPEP 2143) for the reasons discussed below.

In this Amendment, claim 67 has been amended to better articulate novel aspects. Claim 70 has been canceled, and claim 71 has been amended to adjust its dependency from claim 70 to claim 67. Entry of these amendments is respectfully requested for the reasons discussed below. No new matter has been added. Accordingly, claims 1-69 and 71-74 are pending in this application. Claims 1, 37, and 67 are independent claims.

Independent Claims 1 and 37

A *prima facie* case of obviousness requires: (1) a suggestion or motivation to modify or combine the reference teachings; (2) a reasonable expectation of success; and (3) a teaching or suggestion in the prior art references of all of the claim limitations (MPEP 2143). The Office Action does not satisfy all of these requirements.

A. Cheng and Lee not combinable to one skilled in the art

In rejecting claims 1 and 37, the Examiner relies upon the combination of Cheng and Lee to reject the claim limitation of automatically generating schema for a relational database from metadata (pages 5 and 6 of the Office Action). The Examiner admits that Cheng does not teach automatically generating the schemas for the relational database (page 5). In an attempt to cure this deficiency of Cheng, the Examiner asserts that Lee teaches that XML documents and XML schema are automatically generated and transformed (page 5). The Examiner then asserts that it would have been obvious to a person of ordinary skill in the art "to combine the teachings of Cheng with the teachings of Lee by incorporating the use of the XML document that specify [sic] the schema with the XML extender of DB2" (page 5). However, this suggested combination of Cheng and Lee is improper because one of ordinary

Docket No.: 00-8013/RCE1

skill in the art would not have been motivated to combine the references.

Page 6 of the Office Action recites the Examiner's asserted motivation for the combination of these references:

The motivation being to have made the schema generation method for generating a schema relational database from metadata of XML and it would provide an application for storing XML documents in existent or newly created columns of a relational database table in the storing XML the relational database environment.

However, one of ordinary skill in the art reading either reference (Cheng or Lee) and noting deficiencies therein would not have been motivated to seek information to overcome such deficiencies from the other reference because of its irrelevance. Cheng is directed to a relational database extender designed to store, query, and retrieve structured documents (Abstract of Cheng). In contrast, Lee has nothing to do with relational databases and actually teaches away from combination with Cheng. A reference must be considered for all it teaches, including disclosures that teach away from the invention as well as disclosures that point toward the invention. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.* 776 F.2d 281, 227 U.S.P.Q. 657 (Fed. Cir. 1985). In contrast to the teachings of Cheng directed to relational databases, Lee is directed to adding dynamism to XML documents by internally transforming data (e.g., a subtree) within an XML document (Abstract and col. 6, lines 15-22 of Lee). The XML document is transformed in-place (col. 3, lines 45-54). In other words, the output of the method taught by Lee is simply an XML document with transformed internal data (col. 11, lines 1-2). For example, Lee discloses an exemplary XML document transformation: salary data within an XML document is converted from dollars to pounds using a Java class "DollarsToPounds" (col. 6, line 64 to col. 7, line 13). The simple transformation of data within an XML document has nothing to do with generating schema for a relational database. There is no teaching in Lee of the outputted XML document having undergone any transformation that would prepare it for use with a relational database. In fact, Lee does not even mention a relational database.

As is clear from the above discussion, Cheng and Lee are directed to solving different and unrelated problems. To combine Cheng and Lee would be an impermissible use of hindsight reconstruction from Applicant's disclosure. *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999). Therefore, the Office Action does not establish a *prima facie* case of obviousness (MPEP 2143) against independent claims 1 and 37.

Docket No.: 00-8013/RCE1

B. Failure of Cheng and Lee to teach or suggest every claim limitation

Even if it is assumed that the Examiner's asserted combination of Cheng and Lee is somehow proper, the Office Action fails to establish a *prima facie* of obviousness against independent claims 1 and 37 for another independent reason: the asserted combination of Cheng and Lee, even if somehow proper, does not teach the claim limitation of "automatically generating the schema for the relational database from the metadata" (emphasis added). The Examiner expressly admits that "Chang [sic] does not explicitly teach automatically generating the schemas for the relational database" (page 5 of the Office Action). The Examiner then asserts that Lee (col. 3, lines 45-54 and col. 9, lines 30-38) teaches XML schema that are automatically generated and transformed (page 5 of the Office Action). However, even if Lee's teachings of automatically transforming the content of XML documents were combined with the teachings of Cheng, the combination must still rely upon user intervention to map XML documents to a relational database. To illustrate, Lee teaches automatic transformation of the contents of an XML document in-place (col. 3, lines 45-54 of Lee). Thus, as mentioned above, the output of Lee's method is merely an XML document having internally transformed data (col. 6, line 64 to col. 7, line 13 and col. 11, lines 1-2). There is no teaching whatsoever in Lee that the transformed XML document includes schema generated for a relational database. While the Examiner asserts on page 3 of the Office Action that Lee teaches "automatically generate [sic] and transform with [sic] the transformed XML document including the schema for a DBs2, a relational database (col. 3, lines 40-54)," Applicants cannot find any support for this assertion in Lee. Lee does not even mention the terms "relational database," "DBs2," or "DB2."

Based on the teachings of Lee and Cheng, if the transformed XML document of Lee is inserted into the system of Cheng, affirmative user intervention is still required for the extender of Cheng to map the XML document for storage in the table of the relational database (col. 8, lines 13-15; col. 11, lines 62-63; col. 24, line 37; col. 25, line 1; col. 26, line 4). For example, Figure 4 of Cheng requires guidance by the user in step S7. Further, each rectangular block (i.e., steps S1, S3, S4, S6, S8, S10, S11, and S12) of Figure 4 of Cheng represents actions performed by the user (col. 8, lines 2-3). Thus, the combination of Cheng and Lee does not in any way teach or suggest the claim limitation of "automatically generating the schema for the relational database from the metadata" (emphasis added). Therefore, the Office Action fails to establish a *prima facie* case of obviousness against independent claims 1 and 37 because all of the claim limitations recited in the claims are not taught or suggested by the prior art (MPEP 2143). Sarkar was cited to disclose an entity

Docket No.: 00-8013/RCE1

relationship diagram relating to XML/RDF and, as such, does nothing to cure the deficiencies of Cheng and Lee with respect to claims 1 and 37. Accordingly, for either of the foregoing reasons, the rejection of independent claims 1 and 37 should be withdrawn, and it is respectfully suggested that claims 1, 37, and their dependent claims (claims 2-36 and 38-66) are in condition for allowance.

Independent Claim 67

In rejecting independent claim 67, the Examiner relies upon the same asserted combination of Cheng and Lee that was discussed above in relation to claims 1 and 37 (page 13 of the Office Action). Accordingly, the Office Action fails to establish a *prima facie* case of obviousness against claim 67 for the same reasons discussed above concerning the improper combination of Cheng and Lee asserted by the Examiner.

A separate reason for patentability of claim 67 also exists because even if the combination of Cheng and Lee were somehow proper, the combination fails to teach every limitation recited in claim 67 as amended. Applicants have amended independent claim 67 by adding the following claim limitation:

....a generator operably interconnected to the extractor for automatically generating the schema for the relational database from the metadata, wherein at least one table is thereby defined in the relational database corresponding to at least one content particle of the document-type definition via the metadata.... (Emphasis added.)

Applicants respectfully request entry of this amendment into the record because the amendment is believed to place the application in condition for allowance. Further, the claim limitation has already been examined with respect to independent claim 37. Therefore, the proposed amendment does not require additional searching or any more than a cursory review by the Examiner (MPEP 714.13(II)).

As discussed above, the combination of Cheng and Lee asserted by the Examiner, even if proper, does not teach the claim limitation of automatically generating the schema for the relational database from the metadata. Therefore, the Office Action fails to establish a *prima facie* case of obviousness against amended claim 67 for the same reasons discussed above in relation to independent claims 1 and 37. Accordingly, the rejection of claim 67 should be withdrawn, and it is respectfully suggested that claim 67 as well as its dependent claims 68, 69, and 71-74 are in condition for allowance.

Docket No.: 00-8013/RCE1

The Dependent Claims Recite Patentable Subject Matter

In Applicants' previous Amendment filed July 2, 2004, Applicants, merely by way of example of patentable dependent claims, presented examples of patentable subject matter recited in several dependent claims. In the Office Action, the Examiner merely repeated the rejections without addressing Applicants' arguments. Applicants maintain those arguments as presented below. Further, if the Examiner continues to reject the dependent claims discussed below, Applicants respectfully request that the Examiner address Applicants' arguments concerning patentable subject matter recited in those claims.

A. Claim 3

Claim 3 recites the claim limitation of "creating at least one default item in the item metadata table." The Examiner cites Cheng (col. 12, lines 35-38) against this claim limitation (page 5). However, col. 12, lines 35-38 of Cheng does not even mention the word "default." In fact, the only mention of the word "default" in Cheng is limited to a default transformation function for use in retrieving an XML document (col. 20, lines 7-15). Cheng's default function is different from and in no way teaches Applicant's default item because using a default function when retrieving an XML document is completely unrelated to creating a default item in the item metadata table. The default item taken in the context of claim 3 is entirely distinct from a default function as taught in Cheng.

Lee also fails to disclose the claim limitation of creating at least one default item in the item metadata table. Lee's only mention of the word "default" is limited to setting a prefix type default at the top of each subtree within an XML document. This disclosure has nothing to do with creating a default item in the item metadata table because a subtree prefix within an XML document is clearly different from an item in the metadata table, especially when the default item considered in the entire context of claim 3. Because neither Lee nor Cheng teaches creating a default item in the item metadata table, the Examiner has failed to establish a *prima facie* case of obviousness against claim 3 (MPEP 2143).

Claim 3 is also in condition for allowance for an additional and independent reason: the Examiner appears to have inconsistently interpreted Cheng to reject claims 2 and 3. Inasmuch as the Examiner relies on Cheng's XML_DTD_REF table (col. 11, lines 60-65) to reject Applicants' item metadata table recited in claim 2 and on Cheng's XML Columns Table (col. 12, lines 35-38) to reject the same metadata table recited in claim 3 (page 5), the Examiner has inconsistently applied Cheng against the claims. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness against either claim 2 or claim 3 (MPEP 2143).

Docket No.: 00-8013/RCE1

For any one or all of the foregoing independent rationales, claim 3 and its dependent claims (claims 4-29) are in condition for allowance.

B. Claim 39

Similar to claim 3, claim 39 recites the claim limitation of an extractor that creates at least one default item in the item metadata table. Because the Examiner rejected claim 39 for the same reasons cited against claim 3 (page 8), all the arguments presented above in relation to claim 3 apply equally to claim 39. Therefore, claim 39 and its dependent claims (claims 40-49) are in condition for allowance.

C. Claim 42

On page 8 of the Office Action, the Examiner rejected claim 42 based on the assertion that claim 42 is essentially the same as claim 6 but directed to a system rather than a method. Applicants respectfully disagree with the Examiner's assertion that claim 42 is essentially the same as claim 6. Claim 6 includes the limitation of creating a default attribute value in the attribute metadata table, while claim 42 recites an extractor that "generates a row in the attribute metadata table corresponding to each of the attribute type content particles of the document-type definition." Clearly, claim 42 includes limitations that cannot be rejected for the same reason used to reject claim 6, and the Examiner has failed to establish a *prima facie* case of obviousness against claim 42 (MPEP 2143). Applicants respectfully request that the Examiner either provide support in the cited art for the rejection of claim 42, or otherwise pass it and its dependent claims (claims 43-49) to issue.

Docket No.: 00-8013/RCE1

CONCLUSION

All rejections and responses to arguments have been addressed. In view of the above, each of the presently pending claims in this application is believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. It is believed that any fees associated with the filing of this paper are identified in an accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 07-2347. To the extent necessary a petition for extension of time under 37 C.F.R. § 1.136(a) is hereby made, the fee for which should be charged to the aforementioned deposit account.

Respectfully submitted,

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By



Joel Wall

Attorney for Applicants

Reg. No.: 25,648

Verizon Corporate Services Group Inc.

c/o Christian Andersen

600 Hidden Ridge Drive,

Mailcode HQE03H14

Irving, TX 75038

(972) 718-4800

CUSTOMER NO.: 32127